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| Goal One: Establish an international consortium to identify and discuss best practices in STEM education |  |
| Objective | **Outcome** |
| 1.1 To create an interactive live discussion network of representatives of higher education leaders, Presidential Award Winners, P-12 STEM teachers, and STEM professionals | * Strong global network of 100 STEM consortium members * Identify 10 best practices in STEM education or pedagogy |
| 1.2 To establish an advisory board of educators and STEM industry leaders, such as Google, Hyundai, and Marshall Space Flight Center assuring best practices are feasible in the real world | * Strong global network of 5 industry leaders and 5 government entities to assure the best practices in STEM education identified are applicable in the real world * Two (2) advisory board meetings to be held per year |
| 1.3 To establish an emerging technology enriched multi-media classroom to communicate and record best teaching practices | * Host 10 synchronous sessions between global higher education partners, Presidential Award Winning P-12 educators, UWA faculty and/or pre-service teachers * Annual International STEM Summit |
| 1.4 To establish a central repository of videos exemplary of teaching pedagogy of identified best practices from consortium members. | * Record 20 best teaching practices in action per year * Repository of 80 best practice video recordings (20 per year) |
| *Activities::*   * *Video Conferencing* * *Video Recording* * *Establishing Video iTunes Repository* * *International STEM Summit* * *Establishment of a multi-media rich classroom* | ***Resources:***   * *Cisco or other type of teleconferencing; I-Pads, LCD projector, Promethean Board, Computers or other emerging technologies* * *Funds for travel, lodging, etc.* |
| Goal Two: Create innovative STEM curriculum through pre-service and in service teacher training in critical thinking and problem solving. |  |
| Objective | **Outcome** |
| 2.1 Development of STEM curricula for educating P-12 educators, pre-service educators, and students in the GREAT MINDS summer camps | * Hands-on, inquiry-based STEM curricula for 4 theme-based camps in the areas for forensics, environmental science, flight, and robotics for grade levels P-2, 3-5, 6-8, and 9-12 * Dissemination of STEM curricula to STEM educators and students from the participating schools |
| 2.2 To provide pre-service teachers with training in a hands-on STEM curriculum and pedagogy which would give them the knowledge of how to employ these strategies in their future classrooms | * A minimum of 10 pre-service teacher members of THINK will participate in the summer enrichment camps to gain experience with hands-on STEM curriculum and strategies for teaching STEM * 10 pre-service teacher members will attend a national science or math conference * 50 pre-service field trips to see STEM in action * Establish a science/math lab dedicated to pre-service STEM education where pre-service teachers can practice teaching in a technology-enhanced lab environment |
| 2.3 To provide service teachers with professional development where they would learn how to utilize a hands-on STEM curriculum in their classrooms | * Four (4) two-week long summer STEM enrichment camps will train 40 in-service teachers per year and provide them with authentic practice in employing the best practices in STEM (one week training/one week practicing) * 4 professional development workshops will be held during the school year for in-service teachers |
| 2.4 To provide elementary, middle, and high school students the opportunity make use of critical thinking and problem solving skills | * Four (4) week- long summer STEM enrichment camps will be held each year and will accommodate 40 students per camp * All camp attendees (160 per summer) will work collaboratively to produce a challenge based project as a camp finale |
| 2.5 To create a hands-on STEM lab where early childhood aged students are able to learn STEM through inquiry based activities | * A kinesthetic “structures” STEM lab for early childhood aged children * 40 students per year from the UWA early childhood center known as “The Campus School” will have continuous access to the “Construction Crew Center” * A week long inquiry-based learning opportunity for early childhood aged children of the community held in the “Construction Crew Center” |
| *Activities:*   * *Equip a lab for inquiry based teaching and learning in math and science* * *Subscriptions to renowned journals in science, math, technology or engineering areas* * *National Conference attendance* * *Summer enrichment camps* * *Professional development throughout the year for service teachers* * *Create a STEM discovery environment for early childhood students called “Construction Crew”* | ***Resources:***   * *Lab equipment and supplies* * *Stipends for teachers and faculty* * *I-pad and voucher for supplies for service teachers who attend all PD sessions* * *Funds for paying substitute teachers* * *Supplies such as glue, tape, straws, blocks, Legos, Knex, videos, etc.* * *Funds for journal subscriptions and conference registration as well as travel/room for pre-service teachers* |
| Goal Three: To increase the enrollment and retention of high needs students in undergraduate teacher education programs |  |
| Objective | **Outcome** |
| 3.1 To recruit junior and senior high school students for the teacher education program | * 24.5% increase in Black American student enrollment in the teacher education program in the area of STEM * Strong recruitment program that targets Black American students for the UWA teacher education program in a STEM area |
| 3.2 To retain students in the teacher education program until graduation | * %% increase in the retainment rate of members of THINK in the teacher education program compared to the current retention rate of pre-service teachers * Strong mentor program for Black American students in teacher education |
| 3.3 To make data-driven decisions to improve post-secondary outcomes from high needs students including recruiting, retaining, and graduating high-needs students from the regional area | * Data collection and analysis including number of recruiting ventures, number and demographics of recruits into the THINK program, and number of students retained each year * Data collection and analysis of the summer camp programs including data from pre-service, in-service and student participants |
| *Activities:*   * *Recruiting* * *Mentor Program* * *Service Learning Project* * *Field Trips* * *Technology Incentive System* | ***Resources:***   * *Travel and recruitment materials expenses,* * *Stipends for faculty and junior level peer mentors* * *Funds for field trips* * *Funds for I-Pads for graduates as well as travel to “best practices” schools* * *Funds for survey distribution and other data collection and analysis* |